

REMARKS

Claims 1-31 have been rejected. Of these, Applicant has amended claims 1-10, 12-17, 19, 20, 22, and 23 and has canceled claims 11 and 25-31. Accordingly, claims 1-10 and 12-24 remain pending in the application.

Amendments

Support for the amendments may be found at least in the previous versions of claims 1-31 and in paragraph 17 of the publication of the instant application.

Claim Objections

In "Claim Objections" on page 2, the Examiner objects to the recitation of the pronoun "itself" in claims 1-13. In response, Applicants have amended claims 1-10, 12, and 13 and cancelled claim 11, overcoming the Examiner's objections.

Claim Rejections - 35 U.S.C. §101

In "Claim Rejections – 35 U.S.C. §101" on page 2, the Examiner rejects claims 25-31 as being directed to non-statutory subject matter. In response, Applicants have cancelled claims 25-31, obviating the Examiner's rejections.

Claim Rejections - 35 U.S.C. §112

In "Claim Rejections – 35 U.S.C. §112" on page 3-8, the Examiner rejects claims 1-31 under §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More specifically, the Examiner enumerates a series indefinite/problematic recitations of claims 1-31. In response, Applicants have amended claims 1-10, 12-17, 19, 20, 22, and 23 and has canceled claims 11 and 25-31 to overcome the Examiner's rejections and eliminate the indefinite/problematic recitations. Accordingly, Applicants respectfully submit that the rejections of claims 1-31 are obviated.

Claim Rejections - 35 U.S.C. §102

In "Claim Rejections – 35 U.S.C. §102" on page 8, the Examiner rejects claims 1-17, 19, 20, and 22-24 as being anticipated by U.S. Patent Publication No.2002/0144083 (now U.S. Patent No.6,928,645) to Wang et al. (hereinafter "Wang") under 35 U.S.C. §102(b).

More specifically, the Examiner cites a number of passages of Wang as disclosing the elements of claim 1. These passages (paragraphs 47, 48, 55, 61, 74, and 85) describe a method of dynamically spawning, by a main thread, speculative threads/pre-computation slices to pre-compute an address accessed by a load of interest. Each speculative thread/slice includes dependent instructions that have been extracted from the main thread. Also, the threads/slices may be spawned in response to event triggers or chaining triggers (when one speculative thread spawns another). Further, each speculative thread is allocated its own hardware context (step 304 of Figure 3 of Wang).

First, Applicants have cancelled claim 11, obviating its rejection.

Further, in response, while disagreeing with the Examiner's rejections, Applicants have amended claim 1 to more clearly recite the elements of the invention as claimed in claim 1. Amended claim 1 now recites, in part, "first causing, by a first module, a second module to be logically chained to the first module to form or expand a thread comprised of modules, the modules of the thread including at least the first and second modules, enabling the first and second modules to be executed as part of the thread and to share an execution context of the thread."

Nothing in Wang even mentions modules, much less a first module capable of causing a second module to be chained to the first module to form or expand a thread, enabling the first and second modules to be executed as part of the thread and to share an execution context of the thread. The only chaining mentioned in Wang is the chaining of one speculative thread to another. The speculative threads of Wang cannot, however, teach or suggest the modules of amended claim 1 because the speculative threads are not executed as part of the same thread and do not share an execution context of the thread. In fact, Wang explicitly recites that each speculative

thread has its own hardware context (para. 48, lines 4-5). Thus, Wang fails to disclose at least the modules of claim 1, and accordingly fails to anticipate claim 1.

Also, Wang teaches away from executing the speculative threads as part of the same thread or having the speculative threads share an execution context. The entire purpose of Wang is to make use of a multi-thread environment and its resources when execution begins with only a single thread. When only a single thread executes, Wang spawns speculative threads to pre-compute addresses, making full use of the multi-thread environment and reducing memory latency (see at least Abstract and paragraphs 4-13). Thus, because it is the primary purpose of Wang to create multiple threads and use multiple hardware contexts, one skilled in the art would not think to modify Wang to have the multiple threads chain and execute as a single thread and share a single execution context.

Accordingly, for at least these reasons, amended claim 1 is patentable over Wang.

Amended claims 9, 14, 19, and 22 include similar recitations to those of amended claim 1. Accordingly, for at least the same reasons, claims 9, 14, 19, and 22 are patentable over Wang. Claims 2-8, 10, 12, 13, 15-18, 20, 21, 23, and 24 depend from claims 1, 9, 14, 19, and 22, respectively, incorporating their recitations. Thus, for at least the same reasons, claims 2-8, 10, 12, 13, 15-18, 20, 21, 23, and 24 are patentable over Wang.

Claim Rejections - 35 U.S.C. §103

1. In "Claim Rejections – 35 U.S.C. §103" on page 20, the Examiner rejects claims 25-27, 29, and 30 as being unpatentable over Wang under 35 U.S.C. §103(a).

In response, Applicants respectfully submit that the cancellation of claims 25-27, 29, and 30 obviates the Examiner's rejections of those claims.

2. In "Claim Rejections – 35 U.S.C. §103" on page 22, the Examiner rejects claims 18, 21, 28, and 31 as being unpatentable over Wang in view of "UPnP AV Architecture: 0.83", UPnP Forum, Version 1.0, 2002, pages 1-22 (hereinafter "UPnP") under 35 U.S.C. §103(a).

In response, Applicants respectfully submit that the cancellation of claims 28 and 31 obviates the Examiner's rejections of those claims.

Also, Applicants submit that UPnP does not cure the above discussed deficiencies of Wang (nor is it cited by the Examiner as doing so). Thus, amended claims 14 and 19 are patentable over the combination of Wang and UPnP for at least the reasons discussed above. Claims 18 and 21 depend from claims 14 and 19, respectively, incorporating their recitations. Accordingly, for at least the same reasons, claims 18 and 21 are patentable over Wang and UPnP.

CONCLUSION

In light of the above amendments and remarks, this application is now in condition for allowance. 1-10 and 12-24 remain currently pending. Early issuance of Notice of Allowance is respectfully requested.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,
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